

What is claimed is :

1. A network connection apparatus using an internet phone, comprising :

5 an internet phone main unit usable as an ordinary telephone or an internet phone in accordance with an operation of a user ;

a function extending unit for interfacing function packs performing an independent function respectively with a network CPU unit ; and

10 a network CPU unit for controlling an audio signal transmitted/received through a PSTN and controlling a signal received from a network by controlling the internet phone main unit and function extending unit.

2. The network connection apparatus using the internet phone according to claim 1, wherein the internet phone main unit comprises :

15 a LCD module for displaying a telephone number and various control information ;

a keypad module for inputting a telephone number and various information ;

a codec module for modulating an audio signal inputted from outside ;

20 a speaker module for inputting and outputting an audio ; and

a tranceiver module for communicating with the other person.

3. The network connection apparatus using the internet phone according to claim 1, wherein the network CPU unit comprises :

25 a network CPU module for controlling/executing a signal

inputted/outputted from/to the PSTN or network ;

a PSTN module for detecting a ring signal inputted from the PSTN, converting an analog audio signal inputted from outside into a digital signal (PCM), and transmitting it to the network CPU module ;

5 a memory module for storing a file and an application code for executing a signal inputted to the network CPU unit ;

a PCI module for arbitrating various devices installed to slots of the function extending unit and data ; and

10 a USB module for making extension-connection with a peripheral device easily.

4. The network connection apparatus using the internet phone according to claim 3, wherein the memory module comprises :

15 a ROM unit for storing data for initializing a state of the network CPU module ;

a RAM unit for storing an application program for executing data transmitted to the network CPU module ; and

a cache unit for improving execution speed of the network CPU module and communication execution speed.

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5. The network connection apparatus using the internet phone according to claim 3, wherein the network CPU module converts a signal inputted from the PSTN into a packet format, adapts a protocol corresponding to a pertinent IP phone, performs routing in data transmission, controls/executes a  
25 signal related to each PCI pack.

6. The network connection apparatus using the internet phone according to claim 3, wherein the PCI module can directly input/output a packet to each function pack of the function extending unit, accordingly it can be a master and a target at the same time.

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7. The network connection apparatus using the internet phone according to claim 1, wherein the network CPU unit contacts to the network by using a real-time operating system.

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8. The network connection apparatus using the internet phone according to claim 1, wherein the function extending unit is constructed with a plurality of slots for inserting various function packs, and the number of slots can increase variably.

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9. The network connection apparatus using the internet phone according to claim 1, wherein the function extending unit comprises :

a network interface pack for transmitting data inputted from an internet leased-line to the other function pack or the network CPU ;

a wireless LAN pack for constructing a network with each terminal wirelessly ;

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an IEEE 1394 pack for connecting directly to a peripheral device having wide data transmission bandwidth ;

a graphic-sound pack for displaying a graphic and an audio inputted from a communication cable or a network ;

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an extension graphic-sound pack for decreasing load of a CPU for

outputting a graphic/audio in execution of a higher graphic and sound program ;  
and

an additional CPU pack for performing a large scale program which is  
difficult to perform with the network CPU module.

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10. The network connection apparatus using the internet phone  
according to claim 9, wherein the additional CPU pack can operate as an  
independent PC, and comprises a power button for saving power and a reset  
button in preparation for wrong operation of a CPU.

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11. The network connection apparatus using the internet phone  
according to claim 9, wherein the peripheral device connected to the IEEE 1304  
pack can be a printer, a CD-ROM, a TV, a hard disk, or a DVD disk.

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12. The network connection apparatus using the internet phone  
according to claim 9, wherein the function extending unit operates as a  
multifunction digital network unit.

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13. The network connection apparatus using the internet phone  
according to claim 9, wherein the network connection apparatus using the internet  
phone can be miniaturized by combining common parts used in each function  
pack of the function extending unit into one.

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14. A network connection method using an internet phone,  
comprising:

setting up a call when an audio signal is transmitted from outside through a PSTN/IP network ;

sampling the transmitted analog audio signal with a PCM digital signal in the PSTN ;

5 judging whether the call is connected by wire or wireless in accordance with an IP or a device address of the sampled PCM digital signal ; and

transmitting the sampled PCM digital signal to the internet phone main unit when it is judged as wire or transmitting it to the PCI module when it is judged as wireless.

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15. The network connection method using the internet phone according to claim 14, wherein the transmitting process for transmitting the PCM digital signal to the PCI module comprises the steps of:

converting the PCM digital signal transmitted to the PCI into an IP packet ;

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transmitting the IP packet to an internet phone corresponding to a certain IP address through a wireless LAN pack.

16. The network connection method using the internet phone according to claim 15, wherein it is possible to communicate with each internet phone independently by routing of the network CPU unit when there is several internet phones and an independent IP address is allocated to the each internet phone in the transmitting step for transmitting the IP packet to the internet phone corresponding to the certain IP address.

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17. The network connection method using the internet phone according to claim 14, wherein the setting-up process for setting up the call further comprises inputting the audio signal transmitted through the IP network through a network interface pack as a packet format.

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18. In a method for originating a call by using an internet phone, a network connection method using an internet phone, comprising :

pressing a certain keypad of a PSTN set as a default in a network CPU module by a user or selecting an internet phone in a menu on a LCD screen by a user;

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inputting an IP address of the other party ; and

originating a call by setting up a VOIP-related protocol by the inputted IP address.

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19. A network connection method using an internet phone, comprising :

accessing to the internet by a network CPU unit through a network interface pack when a user requests the internet contact ; and

displaying data received to the network interface pack on a TV through a graphic-sound pack by using an execution program etc. of the network CPU unit or listening data with an audio.

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20. The network connection method using the internet phone according to claim 19, wherein displaying or listening process comprises the step

25 of :

outputting all inputted/outputted signals to an additional CPU pack through a PCI bus by recognizing an additional CPU pack of a function extending unit as a destination IP address of an IP header by the network CPU unit when the bandwidth of the transmitted data is wide.

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21. The network connection method using the internet phone according to claim 20, wherein the additional CPU pack may not have an independent IP address by passing all network functions to the network CPU unit or it may directly communicate with the network interface pack by having an independent IP address according to an application program and a PCI protocol.

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